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DEPARTMENT OF AGRICULTURE

BUREAU OF CHEMISTRY

BULLETIN NO. 274

LINSEED OIL REPORT

1915

JAMES W. KELLOGG,
Chief Chemist

CHARLES E. PATTON, Secretary of Agriculture.

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LETTER OF TRANSMITTAL

DEPARTMENT OF AGRICULTURE.
BUREAU OF CHEMISTRY.

Harrisburg, Pa., Feb. 14, 1916.

Hon. Charles E. Patton, Secretary of Agriculture, Harrisburg, Pa.

Dear Sir:—I have the honor to submit herewith for your approval a report of the work performed by the Bureau of Chemistry during the year 1915, showing the number of samples of Linseed Oil purchased from Dealers in the State and analyzed in accordance with the provisions of the Linseed Oil Law.

It is recommended that this report be published in bulletin form for distribution.

Very respectfully,

JAMES W. KELLOGG,
Chief Chemist.

BULLETIN No. 274

LINSEED OIL REPORT

1915

JAMES W. KELLOGG VICTOR B. HAUSKNECHT

INTRODUCTION

During the year 1915 there were 185 samples of Oil purchased for pure raw and boiled Linseed Oil by our Special Agent from Dealers in various localities in the State which were sent to the Bureau of Chemistry for analysis. These samples when purchased were placed in clean bottles, sealed and sent to the Chief Chemist together with a report covering each sample showing the kind of Oil, the names and addresses of Manufacturers or Importers and Dealers, the amount of Oil represented by each sample and the conditions under which they were obtained. They were carefully analyzed and in addition to the reports made to the Secretary of Agriculture, a report was mailed to each Dealer from whom the samples were secured and to the Manufacturers or Importers in each case advising whether or not the results of analysis showed the samples to pass the established standards of purity.

In a few cases, as will be noted by referring to the table showing the results of inspection where samples were found to be adulterated, prosecutions were immediately ordered which resulted in fines of $50.00 being paid by the defendants in each case for selling impure Linseed Oil in violation of the Law.

There were only two parties who took advantage during the year of the provisions in the Law which provides for the analysis of special samples for the fee of $1.00. These samples were found to be pure and to pass the prescribed standards of purity. Reports were made to the senders in each case and the fees received were paid to the State Treasurer as required.

The Law regulating the sale of Paint, Putty and Turpentine passed by the General Assembly of 1915 and which became effective December 1, 1915, will in a measure regulate the use and sale of Linseed Oil, as where any statement or claim is made for the purity of Linseed Oil used in Paints, it must be pure otherwise there will be a violation of the Paint Law in this respect. Inasmuch as the Linseed Oil inspection work is so closely allied and associated with the Paint industry and with the analysis of Paints and painting materials, the future Linseed Oil reports will be included with the reports of the Paint inspection work. The Report for 1916 therefore will be a "Paint and Oil Report" and will show the results of the year's inspection work in enforcing the Laws regulating the sale of Paints, Linseed Oils, Putties and Turpentines. Anyone interested in this work may receive copies of the annual reports free of charge by writing to the Department and requesting that their names be placed on the mailing list.

STANDARDS OF PURITY.

In order to ascertain whether or not Linseed Oil is pure, it is necessary to analyze samples for characteristic properties known as "Constants" and also to make tests for foreign oils. The Law, in addition to requiring that Oils shall be pure and free from added foreign oils, prescribes certain standard constants which raw and boiled Linseed Oil shall possess in order to be considered pure. These standards which are fully explained in technical books on the subject and which were described in the Linseed Oil report for 1913 and 1914 are as follows:

RAW LINSEED OIL:

Specific Gravity at 15.5° C. .9315 to .9360.
Saponification Value (Koettstorfer number) 187 to 195.
Iodine Value (Hanus number) 170 to 190.
Unsaponifiable Matter not to exceed 1.5%.
Acid Value not to exceed 6.

BOILED LINSEED OIL:

Specific Gravity at 15.5° C. .9325 to .9450.
Saponification Value (Koettstorfer number) 185 to 195.
Iodine Value (Hanus number) 160 to 190.
Unsaponifiable Matter not to exceed 2 per cent.
Not to contain free Rosin or Rosin Oil, nor Rosin as Resinates in excess of 1 per centum.
Heated to a temperature of at least 107° C.

ANALYSIS OF SPECIAL SAMPLES.

In addition to the collection and analysis of samples of Oil offered for sale in the State, the law provides for the analysis of special samples sent to the Department by any citizen of Pennsylvania for the fee of $1.00 for each sample. Whenever there is any doubt as to the purity of the Linseed Oil being offered for sale or purchased, dealers and consumers should take advantage of this opportunity for protecting themselves against the purchase of inferior oil and should send samples to the Department for analysis. When it is desired to have special samples of Oil analyzed, the following method of procedure should be noted:

Address—The bottle containing the sample of oil should be securely packed and sent by parcel post addressed:—Bureau of Chemistry, Department of Agriculture, Box "R," Harrisburg, Pa.

Analysis Fee— A charge of $1.00 for each sample analyzed is made as provided by the law and should be sent in the form of a certified check, money order or cash, with a letter requesting the analysis to be made, and advising of the sending of the sample.

Amount of Oil—About one-half pint of the oil to be examined should be carefully drawn from the barrel or other container and placed in a clean bottle. When funnels or measures are used care should be taken that they are clean and free from foreign oils, as otherwise the tests made on an oil contaminated in this way, will be misleading.

As soon as possible after the receipt of samples, a report of the results obtained, together with a receipt for the fee received will be mailed to senders.

PRELIMINARY TESTS MADE FREE OF CHARGE.

Whenever any consumer or dealer located in the State has reason to suspect that the Oil which they have purchased or are about to purchase is not pure or contains mineral or some other foreign oil, the Department will test samples for such adulterants free of charge. This test, however, is only a qualitative or preliminary one and while it does not give a complete analysis, it is sufficient to determine whether or not the sample has been adulterated. Mineral oil is the Oil most frequently used with which to adulterate Linseed Oil and can be easily detected. If the sample submitted is found to be adulterated, this information will be sufficient for the purchaser to reject the shipment and if further evidence of impurity is desired, the sample can be completely analyzed by sending the fee of $1.00 which is charged.

RESULTS OF INSPECTION.

The Special Agent of the Department, detailed to the Linseed Oil inspection work, purchased 185 samples of Oil which were being sold as pure raw or boiled Linseed Oil from dealers in different parts of the State and sent them to the Department for analysis. While the number of samples secured does not fairly represent the character of Linseed Oil being sold throughout the State, the results of inspection clearly indicate that all the Oil being sold is not pure and that it is necessary to have a rigid inspection and enforcement of the Linseed Oil Law. Of the number of samples examined, 3 were found to be adulterated with mineral oil in amounts ranging from 6% to 56%. Four samples were found to contain small amounts of turpentine and mineral oil and upon subsequent investigation and from the reports received from the Special Agent, it was found that in these cases the Oils had become accidently contaminated. The small amounts of foreign oils frequently found present is due rather to carelessness on the part of dealers than to any intention to reduce the quality of the Oil, by using unclean funnels in transferring Oil from one container to another or by emptying Linseed Oil into a tank or barrel which previously had contained turpentine or some other Oil and which had not been cleaned out or entirely removed.

In 6 samples the acid value was found to be slightly in excess of 6, the standard for raw linseed oil but not high enough to seriously effect the quality of the oil. One sample with a high acid value was found to be a special grade of a heavy bodied blown oil. Linseed oil possessing a high acid value usually indicates that it has become rancid or has been pressed from unscreened flaxseed and contains a small amount of oil removed from foreign seeds. A high acid condition may also be due to the presence of rosin acids or in some cases by contamination with unclean containers. In 2 samples of oil there was noted an excessive amount of "foots" or solid matter which, upon standing, would settle out, indicating that the oil had not been properly settled and seasoned before being offered for sale. According to H. A. Gardner, excessive amounts of mucilaginous and albuminous matter contained in linseed oil, commonly called "foots" is unfit for painting purposes as these foots usually contain micro-organisms which will destroy the fatty acids and effect the life of paints in which such oils are used. The high acid value or rancidity of oils is also caused by the setting free of fatty acids.

The following table shows a list of the samples secured and analyzed during the year and whether or not they were adulterated, together with the names and addresses of the dealers from whom they were secured and the names and addresses of the manufacturers or importers. Purchasers who desire to obtain pure linseed oil should carefully note the names of manufacturers who sell their products in Pennsylvania.

RESULT OF INSPECTION.

Chemist's number.	Name and Address of Manufacturer or Importer.	Name and Address of Dealer.	Agent's number.	Kind of oil.	Remarks.
L1277	The Allentown Manufacturing Co., Allentown, Pa.,	O. H. Bowersox & Son, Middleburg,	56	Raw,	Passed.
L1240	Armstrong, McKelvey Lead & Oil Co., Pittsburgh, Pa.,	Farmers' and Contractors' Supply Co., Claysville,	19	Raw,	Passed.
L1361	Barker, Rose & Clinton Co., Elmira, N. Y.,	O. C. Smith, Wyalusing,	140	Raw,	Passed.
L1255	Berwick Store Company, Berwick, Pa.,	Brenner Hardware Co., Berwick,	34	Raw,	Passed.
L1291	Bright & Co., Reading, Pa.,	H. Schmaltz & Co., Kennett Square,	70	Raw,	Passed.
L1234	Capital Paint, Oil & Varnish Co., Washington, Pa.,	R. M. Hamilton, Houston,	13	Raw,	Passed.
L1353	H. C. Collier & Sons, Binghamton, N. Y.,	Crocker & Vail, New Milford,	132	Raw,	Passed.
L1292	N. B. Danforth, Wilmington, Del.,	J. Quarl Mackey, Avondale,	71	Raw,	Passed.*
L1289	N. B. Danforth, Wilmington, Del.,	W. H. Tegeler, West Grove,	68	Raw,	Passed.
L1389	Diamond Oil & Paint Co., Scranton, Pa.,	W. C. Carter, Peckville,	168	Raw,	Passed.
L1385	Diamond Oil & Paint Co., Scranton, Pa.,	Thomas F. Cawley & Son, Dunmore,	164	Boiled,	Passed.
L1382	Diamond Oil & Paint Co., Scranton, Pa.,	Durkin Brothers, Taylor,	161	Raw,	Passed.
L1390	Diamond Oil & Paint Co., Scranton, Pa.,	J. P. Eagen, Archbald,	169	Raw,	Passed.
L1387	Diamond Oil & Paint Co., Scranton, Pa.,	J. H. Lally, Olyphant,	166	Raw,	Passed.
L1394	Diamond Oil & Paint Co., Scranton, Pa.,	John McDonnell, Scranton,	173	Raw,	Passed.
L1386	Diamond Oil & Paint Co., Scranton, Pa.,	Charles Teitelbaum, Throop,	165	Raw,	Passed.
L1383	Diamond Oil & Paint Co., Scranton, Pa.,	Adolph Wolf, Old Forge,	162	Raw,	Passed.
L1268	Dunlap, Slack & Co., Philadelphia, Pa.,	Souder & Crouthamel, Souderton,	47	Raw,	Passed.
L1368	Dye & Bresee Hardware Co., Towanda, Pa.,	John L. Rockwell, Monroeton,	147	Raw,	Passed.
L1244	Eagle Paint & Varnish Co., Pittsburgh, Pa.,	A. M. Winschel, Etna,	23	Raw,	Passed.
L1314	Fehseufeld Brothers, Baltimore, Md.,	W. T. Perkins, Plymouth,	93	Raw,	Passed.†
L1271	Felton, Sibley & Co., Philadelphia, Pa.,	G. L. Thompson, Perkasie,	50	Raw,	Passed.
L1233	W. J. Gilmore Drug Co., Pittsburgh, Pa.,	Van Eman Brothers, Canonsburg,	12	Raw,	Passed.
L1329	The Grove Linseed Oil Co., Philadelphia, Pa.,	Dallas Hardware Co., Dallas,	108	Raw,	Passed.
L1380	The Grove Linseed Oil Co., Philadelphia, Pa.,	James B. Doyle, Scranton,	159	Boiled,	Passed.
L1326	The Grove Linseed Oil Co., Philadelphia, Pa.,	G. T. Farrell, Plains,	105	Raw,	Passed.
L1300	The Grove Linseed Oil Co., Philadelphia, Pa.,	Frantz & Co., Wilkes-Barre,	79	Boiled,	Passed.
L1266	The Grove Linseed Oil Co., Philadelphia, Pa.,	L. E. Harpel, Richlandtown,	45	Raw,	Passed.
L1290	The Grove Linseed Oil Co., Philadelphia, Pa.,	Harvey & McDonald, Kennett Square,	69	Raw,	Passed.
L1354	The Grove Linseed Oil Co., Philadelphia, Pa.,	C. H. MacConnell, Nicholson,	133	Raw,	Passed.
L1313	The Grove Linseed Oil Co., Philadelphia, Pa.,	Peter F. Mackin, Exeter,	92	Raw,	Passed.
L1283	The Grove Linseed Oil Co., Philadelphia, Pa.,	G. M. Rice, Reedsville,	62	Raw,	Passed.
L1257	The Grove Linseed Oil Co., Philadelphia, Pa.,	H. B. Sharpless, Bloomsburg,	36	Raw,	Passed.
L1308	The Grove Linseed Oil Co., Philadelphia, Pa.,	T. W. Shoemaker, Wyoming,	87	Raw,	Passed.
L1264	The Grove Linseed Oil Co., Philadelphia, Pa.,	H. L. Stoneback, Quakertown,	43	Raw,	Passed.

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*Heavy bodied blown oil.

†Small amount of turpentine present.

RESULTS OF INSPECTION—Continued.

Chemist's number.	Name and Address of Manufacturer or Importer.	Name and Address of Dealer.	Agent's number.	Kind of oil.	Remarks.
L1224	Herr & Co., Lancaster, Pa.,	Henry & Smith, Blain,	3	Raw,	Passed.
L1351	Kellogg & McDougall Linseed Oil Works, Buffalo, N. Y.,	W. A. Colston, Great Bend,	130	Raw,	Passed.
L1364	Kellogg & McDougall Linseed Oil Works, Buffalo, N. Y.,	Wm. M. Spalding, Towanda,	143	Boiled,	Passed.
L1363	Kelloggs & Miller, Amsterdam, N. Y.,	Dye & Bresee Hardware Co., Towanda,	142	Boiled,	Passed.
L1296	Kelloggs & Miller, Amsterdam, N. Y.,	D. H. & H. W. Grove, Catawissa,	75	Raw,	Passed.
L1321	Kelloggs & Miller, Amsterdam, N. Y.,	E. Lindermuth, Ashley,	100	Raw,	Passed.
L1356	Kelloggs & Miller, Amsterdam, N. Y.,	E. M. Loomis, Hop Bottom,	135	Boiled,	Passed.
L1375	Kelloggs & Miller, Amsterdam, N. Y.,	C. A. Rehrig, Scranton,	154	Double Boiled,	Passed.
L1376	Kelloggs & Miller, Amsterdam, N. Y.,	C. A. Rehrig, Scranton,	155	Raw,	Passed.
L1315	Kelloggs & Miller, Amsterdam, N. Y.,	Shawnee Supply Co., Plymouth,	94	Boiled,	Passed.
L1241	Spencer Kellogg & Sons, Inc., Buffalo, N. Y.,	W. S. Armstrong, West Alexander,	20	Raw,	Passed.
L1284	Spencer Kellogg & Sons, Inc., Buffalo, N. Y.,	S. G. Beaver, Port Royal,	63	Raw,	Passed.
L1226	Spencer Kellogg & Sons, Inc., Buffalo, N. Y.,	Beck & Benedict, Waynesboro,	5	Raw,	Passed.
L1367	Spencer Kellogg & Sons, Inc., Buffalo, N. Y.,	Belich Brothers, Sayre,	146	Boiled,	Passed.*
L1392	Spencer Kellogg & Sons, Inc., Buffalo, N. Y.,	J. W. Bunnel & Son, Clark's Summit,	171	Raw,	Passed.
L1253	Spencer Kellogg & Sons, Inc., Buffalo, N. Y.,	B. F. Cadman, Millville,	32	Raw,	Passed.
L1348	Spencer Kellogg & Sons, Inc., Buffalo, N. Y.,	Cooley & Son, Montrose,	127	Raw,	Passed.
L1305	Spencer Kellogg & Sons, Inc., Buffalo, N. Y.,	Coursen Hardware Co., Pittston,	84	Boiled,	Passed.
L1362	Spencer Kellogg & Sons, Inc., Buffalo, N. Y.,	Depue & Harden, Towanda,	141	Boiled,	Passed.
L1366	Spencer Kellogg & Sons, Inc., Buffalo, N. Y.,	Finch Brothers, Athens,	145	Boiled,	Passed.
L1371	Spencer Kellogg & Sons, Inc., Buffalo, N. Y.,	W. M. Ford, Scranton,	150	Improved Boiled	Passed.
L1280	Spencer Kellogg & Sons, Inc., Buffalo, N. Y.,	The Franciscus Co., Lewistown,	59	Raw,	Passed.
L1248	Spencer Kellogg & Sons, Inc., Buffalo, N. Y.,	W. C. Hack & Sons, Shamokin,	27	Boiled,	Passed.
L1225	Spencer Kellogg & Sons, Inc., Buffalo, N. Y.,	L. H. Leiter & Brother, Greencastle,	4	Raw,	Passed.
L1360	Spencer Kellogg & Sons, Inc., Buffalo, N. Y.,	J. B. Lewis & Co., Wyalusing,	139	Raw,	Passed.†
L1322	Spencer Kellogg & Sons, Inc., Buffalo, N. Y.,	Luzerne Hardware Co., Luzerne,	101	Boiled,	Passed.
L1373	Spencer Kellogg & Sons, Inc., Buffalo, N. Y.,	Maloney Oil & Manufacturing Co., Scranton,	152	Boiled,	Passed.
L1374	Spencer Kellogg & Sons, Inc., Buffalo, N. Y.,	Maloney Oil & Manufacturing Co., Scranton,	153	Raw,	Passed.
L1370	Spencer Kellogg & Sons, Inc., Buffalo, N. Y.,	Matthews Brothers, Scranton,	149	Improved Boiled	Passed.
L1346	Spencer Kellogg & Sons, Inc., Buffalo, N. Y.,	S. C. Messersmith, Forkston,	125	Raw,	Passed.
L1391	Spencer Kellogg & Sons, Inc., Buffalo, N. Y.,	F. W. Mills & Co., Jermyn,	170	Raw,	Passed.
L1395	Spencer Kellogg & Sons, Inc., Buffalo, N. Y.,	Mills Brothers, Carbondale,	174	Improved Boiled	Passed.
L1304	Spencer Kellogg & Son, Inc., Buffalo, N. Y.,	New Wall Paper Co., Wilkes-Barre,	83	Boiled,	Passed.
L1405	Spencer Kellogg & Sons, Inc., Buffalo, N. Y.,	George J. Palmer, West Chester,	184	Raw,	Passed.
L1256	Spencer Kellogg & Sons, Inc., Buffalo, N. Y.,	W. McK. Reber, Bloomsburg,	35	Raw,	Passed.

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*Small amount of turpentine present.

†Accidently contaminated with small amount of mineral oil.

L1350	Spencer Kellogg & Sons, Inc., Buffalo, N. Y.,	J. B. Rogers, Hallstead,	129	Raw,	Passed.
L1338	Spencer Kellogg & Sons, Inc., Buffalo, N. Y.,	Benjamin H. Shook, Tunkhannock,	117	Raw,	Passed.
L1357	Spencer Kellogg & Sons, Inc., Buffalo, N. Y.,	Dr. A. J. Taylor, Hop Bottom,	136	Raw,	Passed.
L1251	Spencer Kellogg & Sons, Inc., Buffalo, N. Y.,	John Wardroh, Mt. Carmel,	30	Raw,	Passed.
L1344	Spencer Kellogg & Sons, Inc., Buffalo, N. Y.,	Whipple Brothers, Laceyville,	123	Raw,	Passed.
L1332	Spencer Kellogg & Sons, Inc., Buffalo, N. Y.,	Jere Woodering & Co., Hazleton,	111	Raw,	Passed.
L1379	Spencer Kellogg & Sons, Inc., Buffalo, N. Y.,	Zeigler & Schumacher, Scranton,	158	Raw,	Passed.
L1408	Lancaster Fire Proofing & Paint Co., Lancaster, Pa.,	J. Evans Wright, Parkesburg,	182	Raw,	Passed.
L1318	Lehigh Oil Co., Wilkes-Barre, Pa.,	Edwards & Co., Kingston,	97	Boiled,	Passed.
L1319	Lewis & Bennett Hardware Co., Wilkes-Barre, Pa.,	George Lewis, Forty Fort,	98	Raw,	Passed.
L1311	Lewis & Bennett Hardware Co., Wilkes-Barre, Pa.,	J. L. Turner & Co., Nanticoke,	90	Raw,	Passed.
L1259	John T. Lewis & Bros. Co., Philadelphia, Pa.,	Wm. C. Beemer, Yardley,	38	Raw,	Passed.
L1231	John T. Lewis & Bros. Co., Philadelphia, Pa.,	Cochran & Alcock, Carlisle,	10	Boiled,	Passed.
L1247	John T. Lewis & Bros. Co., Philadelphia, Pa.,	J. H. Conley & Sons, Shamokin,	26	Raw,	Passed.
L1258	John T. Lewis & Bros. Co., Philadelphia, Pa.,	Edward Cox, Morrisville,	37	Raw,	Passed.
L1273	John T. Lewis & Bros. Co., Philadelphia, Pa.,	A. Y. Craven, Bridgeport,	52	Raw,	Passed.
L1276	John T. Lewis & Bros. Co., Philadelphia, Pa.,	H. E. Emery, Middleburg,	55	Raw,	Passed.
L1275	John T. Lewis & Bros. Co., Philadelphia, Pa.,	J. Fegely & Son, Pottstown,	54	Raw,	Passed.
L1295	John T. Lewis & Bros. Co., Philadelphia, Pa.,	W. B. Goodhart, Catawissa,	74	Raw,	Passed.
L1246	John T. Lewis & Bros. Co., Philadelphia, Pa.,	Theo. M. Griffith & Son, East Downingtown,	25	Boiled,	Passed.
L1288	John T. Lewis & Bros. Co., Philadelphia, Pa.,	John Hocking & Son, West Grove,	67	Raw,	Passed.
L1270	John T. Lewis & Bros. Co., Philadelphia, Pa.,	E. S. Jacoby & Son, Sellersville,	49	Raw,	Passed.
L1269	John T. Lewis & Bros. Co., Philadelphia, Pa.,	A. S. Kulp, Telford,	48	Raw,	Passed.*
L1404	John T. Lewis & Bros. Co., Philadelphia, Pa.,	Pownall Hardware Co., Coatesville,	183	Raw,	Passed.
L1263	John T. Lewis & Bros. Co., Philadelphia, Pa.,	Louis I. Rubin, Bristol,	42	Raw,	Passed.
L1250	John T. Lewis & Bros. Co., Philadelphia, Pa.,	Sanner Hardware Co., Mt. Carmel,	29	Boiled,	Passed.
L1265	John T. Lewis & Bros. Co., Philadelphia, Pa.,	Sheetz & Price, Quakertown,	44	Raw,	Passed.
L1261	John T. Lewis & Bros. Co., Philadelphia, Pa.,	A. M. Wildman, Langhorne,	40	Raw,	Passed.
L1227	John T. Lewis & Bros. Co., Philadelphia, Pa.,	Zug Hardware Co., Chambersburg,	6	Raw,	Passed.
L1260	John Lucas & Co., Philadelphia, Pa.,	Wm. B. T. Pryor, Langhorne,	39	Raw,	Passed.
L1340	John Lucas & Co., Philadelphia, Pa.,	F. M. Swetland, Mehoopany,	119	Raw,	Passed.
L1293	John Lucas & Co., Philadelphia, Pa.,	C. Y. Wilson, Avondale,	72	Raw,	Passed.
L1393	Maloney Oil Manufacturing Co., Scranton, Pa.,	E. H. Fisk, Dalton,	172	Raw,	Passed.
L1381	Maloney Oil Manufacturing Co., Scranton, Pa.,	Luther Price, Scranton,	160	Raw,	Passed.
L1358	Maloney Oil Manufacturing Co., Scranton, Pa.,	J. R. Thurston, Factoryville,	137	Raw,	Passed.
L1402	The Mann Brothers Co., Buffalo, N. Y.,	Aldrich & Co., Forest City,	181	Raw,	Passed.
L1297	The Mann Brothers Co., Buffalo, N. Y.,	R. E. Benscoter, Nescopeck,	76	Raw,	Passed.
L1336	The Mann Brothers Co., Buffalo, N. Y.,	J. L. Briggs, Shickshinny,	115	Boiled,	Passed.
L1342	The Mann Brothers Co., Buffalo, N. Y.,	W. M. Carter, Meshoppen,	121	Raw,	Passed.
L1254	The Mann Brothers Co., Buffalo, N. Y.,	T. Harry Doan. Berwick,	33	Raw,	Passed.
L1359	The Mann Brothers Co., Buffalo, N. Y.,	A. B. Fitch, Factoryville,	138	Raw,	Passed.
L1230	The Mann Brothers Co., Buffalo, N. Y.,	Graham & Laughlin, Newville,	9	Raw,	Passed.
L1310	The Mann Brothers Co., Buffalo, N. Y.,	Hill & Evans, Nanticoke,	89	Boiled,	Passed.
L1352	The Mann Brothers Co., Buffalo, N. Y.,	F. G. Inderlied, New Milford,	131	Boiled,	Passed.
L1309	The Mann Brothers Co., Buffalo, N. Y.,	C. H. Lecher, Nanticoke,	88	Raw,	Passed.
L1372	The Mann Brothers Co., Buffalo, N. Y.,	Thos. H. Leonard Co., Scranton,	151	Boiled,	Passed.
L1306	The Mann Brothers Co., Buffalo, N. Y.,	Max Ludwig, Pittston,	85	Raw,	Passed.
L1229	The Mann Brothers Co., Buffalo, N. Y.,	J. W. McPherson & Sons, Shippensburg,	8	Raw,	Passed.
L1365	The Mann Brothers Co., Buffalo, N. Y.,	George L. Roberts Co., Athens,	144	Boiled,	Passed.
L1347	The Mann Brothers Co., Buffalo, N. Y.,	J. J. Ryan & Co., Montrose,	126	Boiled,	Passed.
L1330	The Mann Brothers Co., Buffalo, N. Y.,	A. Ryman & Sons, Dallas,	109	Raw,	Passed.
L1377	The Mann Brothers Co., Buffalo, N. Y.,	Schneider Brothers, Scranton,	156	Boiled,	Passed.

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*Accidently contaminated with small amount of mineral oil.

RESULTS OF INSPECTION—Concluded.

Chemist's number.	Name and Address of Manufacturer or Importer.	Name and Address of Dealer.	Agent's number.	Kind of oil.	Remarks.
L1378	The Mann Brothers Co., Buffalo, N. Y.,	Schneider Brothers, Scranton,	157	Raw,	Passed.
L1279	The Mann Brothers Co., Buffalo, N. Y.,	J. B. Selheimer, Lewistown,	157	Raw,	Passed.*
L1281	The Mann Brothers Co., Buffalo, N. Y.,	G. W. Sheary, Lewistown,	60	Raw,	Passed.
L1228	The Mann Brothers Co., Buffalo, N. Y.,	J. F. Snyder, Mercersburg,	7	Raw,	Passed.
L1282	The Mann Brothers Co., Buffalo, N. Y.,	John Watts, Belleville,	61	Raw,	Passed.
L1333	The Mann Brothers Co., Buffalo, N. Y.,	James Whitaker, Hazleton,	112	Raw,	Passed.
L1337	The Mann Brothers Co., Buffalo, N. Y.,	Williams Hardware Co., Tunkhannock,	116	Raw,	Passed.
L1335	The Mann Brothers Co., Buffalo, N. Y.,	J. D. Woodworth's Sons, Shickshinny,	114	Boiled,	Passed.
L1384	Matthews Brothers, Inc., Scranton, Pa.,	J. G. Bone & Son, Dunmore,	163	Boiled.	Passed.
L1388	Matthews Brothers, Inc., Scranton, Pa.,	W. P. Kennedy, Dickson City,	167	Raw,	Passed.
L1349	E. C. McKallor Drug Co., Binghamton, N. Y.,	W. D. Cox, Hallstead,	128	Raw,	Passed.
L1355	E. C. McKallor Drug Co., Binghamton, N. Y.,	L. N. Reynolds, Nicholson,	134	Raw,	Passed.
L1324	Midland Linseed Products Co., New York, N. Y.,	Jacob Kurloncheek, Duryea,	103	Raw,	Passed.
L1298	Midland Linseed Products Co., New York, N. Y.,	Lewis & Bennett Hardware Co., Wilkes-Barre,	77	Pale Boiled,	Passed.
L1237	Midland Linseed Products Co., New York, N. Y.,	Lewis Pharmacy, Washington,	16	Raw,	Passed.
L1299	Midlaud Linseed Products Co., New York, N. Y.,	C. Morgan's Sons, Wilkes-Barre,	78	Pale Boiled,	Passed.
L1316	Midland Linseed Products Co., New York, N. Y.,	A. J. Roat Supply Co., Kingston,	95	Pale Boiled,	Passed.
L1317	Midland Linseed Products Co., New York, N. Y.,	A. J. Roat Supply Co., Kingston,	96	Raw,	Passed.
L1334	Midland Linseed Products Co., New York, N. Y.,	Tom Trethaway, Parsons,	113	Pale Boiled,	Passed.
L1331	Midland Linseed Products Co., New York, N. Y.,	Wagner Hardware Co., Hazleton,	110	Raw,	Passed.
L1301	Midland Linseed Products Co., New York, N. Y.,	Weiss & Wallace Co., Inc., Wilkes-Barre,	80	Raw,	Passed.
L1302	Midland Linseed Products Co., New York, N. Y.,	White Hardware Co., Wilkes-Barre,	81	Raw,	Passed.
L1323	Milwaukee Linseed Oil Works, Milwaukee, Wis.,	L. Baltimore, Duryea,	102	Boiled,	Passed.
L1267	Daniel Minogue, Philadelphia, Pa.,	A. O. Gehman, Coopersburg,	46	Raw,	Adulterated.
L1320	C. Morgan's Sons, Wilkes-Barre, Pa.,	Charles W. Vincent, Ashley,	99	Raw,	Passed.
L1325	C. Morgan's Sons, Wilkes-Barre, Pa.,	W. A. Waite, Sugar Notch,	104	Raw,	Passed.
L1341	Moyer Brothers, Bloomsburg, Pa.,	N. H. Davis, Mehoopany,	120	Raw,	Passed.
L1252	Moyer Brothers, Bloomsburg, Pa.,	P. L. Eves, Millville,	31	Raw,	Passed.
L1307	National Lead Co., New York, N. Y.,	Walter Barritt, Pittston,	86	Raw,	Passed.
L1400	National Lead Co., New York, N. Y.,	Gwinn Brothers, Hawley,	179	Calcutta Raw,	Passed.
L1312	National Lead Co., New York, N. Y.,	Walter T. Spry, West Pittston,	91	Raw,	Passed.
L1243	National Lead & Oil Co., Pittsburgh, Pa.,	Crafton Hardware Co., Crafton,	22	Raw,	Passed.
L1235	National Lead & Oil Co., Pittsburgh, Pa.,	Paul & Post, Washington,	14	Raw,	Passed.
L1222	National Lead & Oil Co., Pittsburgh, Pa.,	F. E. Taylor, Newport,	1	Raw,	Passed.
L1236	National Lead & Oil Co., Pittsburgh, Pa.,	Templeton's Drug Store, Washington,	15	Raw,	Passed.
L1262	Eugene E. Nice, Philadelphia, Pa.,	John K. Young, Bristol,	41	Raw,	Passed.

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*Heavy bodied blown oil.

L1274	Pittsburgh Plate Glass Co., Pittsburgh, Pa.,	T. D. Kline, Limerick,	53	Raw,	Passed.
L1286	Red Seal "C" Manufacturing Co., Baltimore, Md.,	C. Caldwell, Oxford,	65	Raw,	Passed.*
L1327	A. J. Roat Supply Co., Kingston, Pa.,	J. J. Jenkins, Edwardsville,	106	Boiled,	Passed.
L1249	Sanner Hardware Co., Shamokin, Pa.,	Wm. Fritz & Co., Trevorton,	28	Raw,	Passed.
L1223	The Sherwin-Williams Co., Cleveland, Ohio,	Clouser & Hair, New Bloomfield,	2	Raw,	Passed.
L1396	The Sherwin-Williams Co., Cleveland, O.,	O. M. Spettigue, Honesdale,	175	Raw,	Passed.
L1278	The Sherwin-Williams Co., Cleveland, Ohio,	Wagner & Herbster, McClune,	57	Raw,	Passed.
L1406	Robert Shoemaker & Co., Philadelphia, Pa.,	Bennet & Lear, West Chester,	185	Raw,	Passed.
L1245	Smith, Kline & French Co., Philadelphia, Pa.,	H. B. Sides, Downingtown,	24	Raw,	Passed.
L1369	Wm. M. Spalding, Towanda, Pa.,	Geo. H. Smalley, Monroeton,	148	Raw,	Passed.
L1397	The Standard Linseed Co., Cleveland, Ohio,	Erk Brothers, Honesdale,	176	Raw,	Adulterated.
L1398	The Standard Linseed Co., Cleveland, Ohio,	Murray Co., Honesdale,	177	Raw,	Adulterated.
L1294	Steelman & Archer, Philadelphia, Pa.,	H. W. Owen, Toughkenamon,	73	Raw,	Passed.
L1287	Steiman Hardware Co., Lancaster, Pa.,	W. Burling, Oxford,	66	Raw,	Passed.
L1238	Thompson & Co., Pittsburgh, Pa.,	J. T. Rodgers & Co., Waynesburg,	17	Raw,	Passed.
L1242	Thompson & Co., Pittsburgh, Pa.,	Geo. Rome & Co., Carnegie,	21	Raw,	Passed.
L1239	Thompson & Co., Pittsburgh, Pa.,	Jesse L. Ross & Co., Waynesburg,	18	Raw,	Passed.
L1285	Thompson & Co., Pittsburgh, Pa.,	Ralph B. Thompson, Millerstown,	64	Raw,	Passed.
L1232	Thompson & Co., Pittsburgh, Pa.,	J. S. Washabaugh, Canonsburg,	11	Raw,	Passed.
L1345	Treman King & Co., Ithaca, N. Y.,	Keeney & Walters, Laceyville,	124	Raw,	Passed.
L1339	Treman King & Co., Ithaca, N. Y.,	F. I. Wheelock, Eatonville,	118	Raw,	Passed.
L1401	Wm. Waterall & Co., Philadelphia, Pa.,	G. A. Hornbeck, Forest City,	180	Raw,	Passed.
L1272	Geo. D. Wetherill & Co., Philadelphia, Pa.,	H. C. Messinger & Sons, Conshohocken,	51	Raw,	Passed.
L1343	Whipple Brothers, Laceyville, Pa.,	H. A. Lacey, Laceyville,	122	Raw,	Passed.
L1399	C. A. Woolsey Paint & Color Co., Jersey City, N. J.,	Wm. S. Watts, Hawley,	178	Boiled,	Passed.
L1328	Unknown.	Wm. B. Davis, Edwardsville,	107	Boiled,	Passed.
L1303	Unknown.	M. Jevons & Son, Wilkes-Barre,	82	Raw,	Passed.

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*Heavy bodied blown oil.